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09/741,684	12/18/2000	Xm Wong	2855/29	6553

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EXAMINER
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MILLER, BRIAN E

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.



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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 09/741,684  
Filing Date: December 18, 2000  
Appellant(s): WONG ET AL.

**MAILED**

**JUL 13 2007**

**Technology Center 2600**

Sumit Bhattacharya  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed 3/14/07 appealing from the Office action mailed 11/14/06.

**(1) Real Party in Interest**

A statement identifying by name the real party in interest is contained in the brief.

**(2) Related Appeals and Interferences**

The following are the related appeals, interferences, and judicial proceedings known to the Examiner which may be related to, directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal:

Ex parte XM WONG and ROCK TAO; Appeal No. 2006-0513

**(3) Status of Claims**

The statement of the status of claims contained in the brief is correct.

**(4) Status of Amendments After Final**

While the presently filed Appeal Brief is silent as to the Status of the Amendments After Final, the Appendix did reflect the correct claims on Appeal. The Amendment After Final filed on 1/16/07 to cancel claims 1-18 and 25-30 was entered by the Examiner.

**(5) Summary of Claimed Subject Matter**

The summary of claimed subject matter contained in the brief is correct.

**(6) Grounds of Rejection to be Reviewed on Appeal**

The appellant's statement of the grounds of rejection to be reviewed on appeal is substantially correct. The changes are as follows:

**WITHDRAWN REJECTIONS**

The following grounds of rejection are not presented for review on appeal because they have been withdrawn by the examiner. Claims 19-24 being rejected under 35 U.S.C. §112, second paragraph.

**(7) Claims Appendix**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(8) Evidence Relied Upon**

4761699	Ainslie et al	8-1988
5821494	Albrecht et al	10-1998

**(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

***Claim Rejections - 35 USC § 102***

Claims 19-23 are rejected under 35 U.S.C. 102(b) as being anticipated by Albrecht et al (US 5,821,494). Albrecht et al discloses a suspension as shown in at least FIG. 3, and FIGs. 12A-12C) which includes: a suspension 44 with a metal suspension bonding pad 64 for bonding to a magnetic head terminal with a slider bonding pad 62, which includes a bonding substance 122/60 which is a conductive adhesive solder film polymer (see col. 11, lines 16-25), applied as a surface finishing material, which material is heat treated “prior to bonding to a surface” (see col. 10, lines 50-53 & FIG. 10B). Additionally, as shown in FIG. 12A the slider bonding pad 62 is “initially without bonding substance” and subsequently is electrically bonded to a suspension bonding pad 64 when the bonding substance 60 is reflowed (see FIG. 12C and col. 10, lines 35-53).

The following limitations are addressed in so far as they are definite and understood with respect to the 112 (2) paragraph rejections, set forth above. With respect to claim 19 and the language (last 3 lines, i.e., wherein the slider bonding pad...with heat treatment,” it is understood and well

known in the art, that heat treatment will allow a solder connection to melt and permit disconnection of an electrical connection. With respect to claim 25, Albrecht et al discloses "several bonding bumps" 60, as shown in FIG. 4.

Claims 19-23 are rejected under 35 U.S.C. 102(b) as being anticipated by Ainslie et al (US 4,761,699). Ainslie et al discloses a suspension, as shown in FIGs. 4 & 5, including a slider 16 and a suspension 40; a suspension bonding pad 47/63 for electrically bonding to a magnetic head terminal, e.g., a slider bonding pad 41. Additionally, as shown in FIG. 4, the slider bonding pad is initially without bonding substance, such that as in FIG. 6, the suspension bonding pad 47 and slider bonding pad(s) 41, 70 are electrically coupled to each other when the bonding substance is reflowed; further the bonding substance includes solder 80, 82 and a conductive adhesion film 74, 76, applied as a surface finishing material, which material is heat treated "prior to bonding to a surface" (see col. 7, lines 15-16).

The following limitations are addressed in so far as they are definite and understood with respect to the 112 (2) paragraph rejections, set forth above. With respect to claim 19 and the language (last 3 lines, i.e., wherein the slider bonding pad...with heat treatment," it is understood and well known in the art, that heat treatment will allow a solder connection to melt and permit disconnection of an electrical connection. With respect to claim 25, Ainslie et al discloses "several bonding bumps" 86, as shown in FIG. 2.

#### ***Claim Rejections - 35 USC § 103***

Claim 24, is rejected under 35 U.S.C. 103(a) as being unpatentable over either Albrecht et al or Ainslie et al. Albrecht et al or Ainslie et al are silent as to the dimensions, i.e., height and

diameter, of the solder bump, however, Albrecht does teach the slider pads to be no larger than 120 um (see col. 11, lines 19-20) which size slider pad would presumably encompass a solder bump having a diameter equal to or approximate to that dimension. Taking this and the knowledge of a skilled artisan into consideration, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have provided solder bumps within the claimed dimensions to the respective teachings of Albrecht et al or Ainslie et al. The motivation would have been: lacking any unobvious or unexpected results, the particular solder bump height and diameter would have been provided through routine experimentation and optimization so as to optimize the electrical connection with minimal height usage, which would have been realized by a skilled artisan.

#### **(10) Response to Argument**

**A...** The argument with respect to claims 19-24 with respect to the 35 U.S.C. § 112, second paragraph is now moot because the Examiner has withdrawn this rejection, see item (6), *supra*.

**B...** Appellants assert with respect to Albrecht *and* Ainslie that “the cited references do not teach, suggest or describe at least “[a] suspension comprising...wherein the slider bonding pad enables the reuse of the suspension by removing the connection between a slider and the slider bonding pad with heat treatment” (e.g., as described in claim 19)”

This is found unpersuasive because the Examiner has addressed this limitation and it is maintained that, in so far as this language positively sets forth a further structural limitation of the slider/slider bonding pad, it is considered to be met by Albrecht (and Ainslie). The claimed “heat treatment” is considered to be a manufacturing process limitation and/or a disassembly step

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in a product by process claim and is not encompassed by the scope of the claim. In so far as it is though, a "product by process" claim is directed to the product per se, no matter how actually made. The patentability of the Final product in a "product by process" claim must be determined by the product itself and not the actual process and an old or obvious product produced by a new method is not patentable as a product, whether claimed in "product by process" claims or not. Accordingly, the weight given to the "product by process" limitation is the structure "gleaned" from the process. In this situation, besides a remelting of the previously hardened "bonding substance," which is evident and encompassed by Albrecht (and Ainslie), there is no structural difference between the claims and the prior art relied upon.

The language "the slider bonding pad enables the reuse of the suspension," at best, is considered to be a very broad functional limitation of structure, and as such, the slider bonding pad (of Albrecht and Ainslie) is/are considered to have the capability of permitting reuse of the suspension, e.g., desoldering.

**C...**Appellants' "argument" with respect to claim 24 (page 6 of the Brief) amounts to a general allegation of patentability, and as such, has no substance and thus has been dismissed by the Examiner.

#### **(11) Related Proceeding(s) Appendix**

Copies of the court or Board decision(s) identified in the Related Appeals and Interferences section of this examiner's answer are provided herein.

Please find attached the Board Decision rendered in this application on February 23, 2006.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/Brian E. Miller/

Primary Patent Examiner, A.U. 2627

Conferees:

/Wayne R. Young/

Supervisory Patent Examiner, A.U. 2627

/Andrea Wellington/

Supervisory Patent Examiner, A.U. 2627

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

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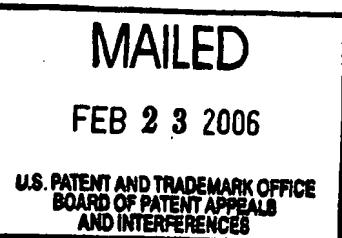
Ex parte XM WONG and ROCK TAO

Appeal No. 2006-0513  
Application No. 09/741,684

ON BRIEF

Before OWENS, RUGGIERO, and GROSS, Administrative Patent Judges.

RUGGIERO, Administrative Patent Judge.



DECISION ON APPEAL

This is a decision on the appeal from the final rejection of claims 7-12, which are all of the claims pending in the present application. Claims 1-6 and 13-18 have been canceled. An amendment filed March 15, 2004 after final rejection has been approved for entry by the Examiner.

The claimed invention relates to a suspension and slider assembly for a magnetic recording head in which a bonding substance is heated prior to being applied as a surface finishing

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material to a metal bonding pad of the suspension. More particularly, a slider bonding pad, which initially has no bonding substance, is coupled to the suspension by the reflowing of the bonding substance on the suspension bonding pad, thereby coupling the suspension bonding pad to the slider bonding pad.

Claim 7 is illustrative of the invention and reads as follows:

7. A suspension comprising:

a suspension bonding pad for electrically bonding a magnetic head terminal, wherein said bonding pad includes a metal pad having a bonding substance applied as a surface finishing material, the surface finishing material being heat treated prior to bonding to a surface; and

a slider bonding pad initially without bonding substance coupled to said suspension such that the bonding substance on said suspension bonding pad is reflowed so as to electrically couple the suspension bonding pad and the slider bonding pad.

The Examiner relies on the following prior art:

Ainslie et al. (Ainslie)	4,761,699	Aug. 02, 1988
Albrecht et al. (Albrecht)	5,821,494	Oct. 13, 1998

Claims 7-11 stand finally rejected under 35 U.S.C. § 102(b) as being anticipated by either one of Ainslie or Albrecht.

Claims 12 stands finally rejected under 35 U.S.C. § 103(a) as being unpatentable over either one of Ainslie or Albrecht.

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Rather than reiterate the arguments of Appellants and the Examiner, reference is made to the Briefs<sup>1</sup> and Answer for the respective details.

OPINION

We have carefully considered the subject matter on appeal, the rejections advanced by the Examiner and the evidence of anticipation and obviousness relied upon by the Examiner as support for the rejections. We have, likewise, reviewed and taken into consideration, in reaching our decision, Appellants' argument set forth in the Briefs along with the Examiner's rationale in support of the rejections and arguments in rebuttal set forth in the Examiner's Answer.

It is our view, after consideration of the record before us, that the disclosure of Albrecht, as well as that of Ainslie, fully meets the invention as recited in claims 7-11. In addition, we are of the opinion that the evidence relied upon and the level of skill in the particular art would have suggested to

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<sup>1</sup> The Appeal Brief was filed June 21, 2004. In response to the Examiner's Answer dated September 7, 2004, a Reply Brief was filed November 12, 2004 which was acknowledged and entered by the Examiner as indicated in the communication dated November 15, 2005.

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one of ordinary skill in the art the obviousness of the invention as set forth in claim 12. Accordingly, we affirm.

Appellants' arguments in response to the Examiner's rejections of the appealed claims are organized according to a suggested grouping of claims indicated at page 3 of the Brief. We will consider the appealed claims separately only to the extent separate arguments for patentability are presented. Any dependent claim not separately argued will stand or fall with its base claim. Note In re King, 801 F.2d 1324, 1325, 231 USPQ 136, 137 (Fed. Cir. 1986); In re Sernaker, 702 F.2d 989, 991, 217 USPQ 1, 3 (Fed. Cir. 1983).

We consider first the Examiner's 35 U.S.C. § 102(b) rejection of claims 7-11 based on Albrecht. At the outset, we note that anticipation is established only when a single prior art reference discloses, expressly or under the principles of inherency, each and every element of a claimed invention as well as disclosing structure which is capable of performing the recited functional limitations. RCA Corp. v. Applied Digital Data Systems, Inc., 730 F.2d 1440, 1444, 221 USPQ 385, 388 (Fed. Cir.); cert. dismissed, 468 U.S. 1228 (1984); W.L. Gore and Associates, Inc. v. Garlock, Inc., 721 F.2d 1540, 1554, 220 USPQ 303, 313 (Fed. Cir. 1983), cert. denied, 469 U.S. 851 (1984).

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With respect to independent claim 7, the Examiner indicates (Answer, pages 3 and 4) how the various limitations are read on the disclosure of Albrecht. In particular, the Examiner directs attention to the illustrations in Albrecht's Figures 3 and 12A-12C, as well as the accompanying descriptions at column 10, lines 35-53, and column 11, lines 16-25 of Albrecht.

After reviewing the Examiner's analysis, it is our opinion that the stated position is sufficiently reasonable that we find that the Examiner has at least satisfied the burden of presenting a prima facie case of anticipation. The burden is, therefore, upon Appellants to come forward with evidence and/or argument which persuasively rebut the Examiner's prima facie case. Only those arguments actually made by Appellants have been considered in this decision. Arguments which Appellants could have made but chose not to make in the Briefs have not been considered and are deemed to be waived [see 37 CFR § 41.37(c)(1)(vii)].

Appellants' arguments in response to the rejection of independent claim 7 assert that the Examiner has not shown how each of the claimed features is present in the disclosure of Albrecht so as to establish a case of anticipation. Appellants' primary point of contention (Brief, pages 4 and 5; Reply Brief,

pages 2 and 3) is that, in contrast to the claimed invention, Albrecht has no disclosure of a suspension and slider connection in which the slider bonding pad is "initially without bonding substance." In making this argument, Appellants attempt to draw a distinction between the suspension/slider connection in Albrecht in which solder bumps are placed on both the slider and suspension pads.

After reviewing the Albrecht reference in light of the argument of record, however, we are in general agreement with the Examiner's position as stated in the Answer. Appellants' arguments to the contrary notwithstanding, the Examiner has, in our view, construed the claim limitation "initially without bonding substance" in a reasonable manner. We simply find no error in the Examiner's assertion that, as illustrated in Figure 12A of Albrecht, which depicts the slider pad 62 and suspension pad 64 as they appear before application of the solder bump 122, the slider bonding pad has no bonding substance. We would also point out, as also alluded to by the Examiner (Answer, page 6), that the language of claim 7 does not preclude the condition, as disclosed in Albrecht, in which, at some point in the slider/suspension connection process, bonding substance will be applied to the slider bonding pad.

We also make the observation that, while unnecessary for a determination of whether claim 7 is anticipated by Albrecht in view of our discussion supra, we find no error in the Examiner's assertion (Answer, page 6) that the "initially without bonding substance" in claim 7 is a process limitation which is entitled to no patentable weight in a product by process claim. We agree with the Examiner that in claims directed towards a product, it is the patentability of the final product *per se* which must be determined.

In the present factual situation, the Examiner has provided a reasonable rationale (Answer, page 6) for concluding that the claimed final end product, i.e., the suspension including the slider/suspension connection, will be the same or at least structurally equivalent whether or not bonding material is initially placed on both the slider pad and suspension pad and reflowed together, or whether bonding material is initially placed only on the suspension pad and reflowed to the slider pad. See In re Thorpe, 777 F.2d 695, 697, 227 USPQ 964, 966 (Fed. Cir. 1985).

We do recognize that Appellants may always provide evidence to show that the process claimed does, in fact, result in a product different from that disclosed by the applied reference.

Indeed, Appellants have made an argument (Brief, page 5; Reply Brief, pages 2 and 3) that the gravitational pull on the solder reflow and the initial solder placement will affect the shape of the solder bond resulting in a product different from that of the prior art. We find the record before us, however, to be totally devoid of any evidence to support such a conclusion and, in the absence of any such evidence, such a conclusion could only be based on unwarranted speculation.

In view of the above discussion, since all of the claimed limitations are present in the disclosure of Albrecht, the Examiner's 35 U.S.C. § 102(b) rejection of independent claim 7, as well as claims 8-11 not separately argued by Appellants, is sustained.

Turning to a consideration of the Examiner's 35 U.S.C. § 102(b) rejection of claims 7-11 based on Ainslie, we sustain this rejection as well. Appellants' sole argument (Brief, page 6; Reply Brief, page 5) in response to this rejection is that Ainslie's suspension 40 does not have a "bonding pad" as claimed but, instead, merely has circular openings in the lead terminations 47. In support of this contention, Appellants refer to a passage at column 4, lines 18-23 in Ainslie where the solder

contacts 70 on the slider 16 are described as "pads" while the suspension contacts are referred to as "solder-wettable regions."

After reviewing the disclosure of Ainslie, however, we are in agreement with the Examiner (Answer, page 7) that the lead terminations 47 in Ainslie would necessarily be considered to be metal bonding pads since they provide electrical connection with the slider bonding pads. The fact that Ainslie may not use the word "pads" in describing the suspension contacts is immaterial especially in view of the fact that Appellant has provided no disclosure of any particular structure of a contact pad that would provide any basis for the claim interpretation asserted by Appellants. We would further point out that it is well settled that, even if a reference fails to explicitly spell out every detail of a claimed invention, such a reference would anticipate a claim if it discloses the claimed invention "such that a skilled artisan could take its teachings in combination with his own knowledge of the particular art and be in possession of the invention." In re Graves, 69 F.3d 1147, 1152, 36 USPQ2d 1697, 1701 (Fed. Cir. 1995), quoting from In re LeGrice, 301 F.2d 929, 936, 133 USPQ 365, 372 (CCPA 1962).

Lastly, we also sustain the Examiner's 35 U.S.C. § 103(a) rejection, based on either Albrecht or Ainslie, of dependent

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claim 12. We find no error in the Examiner's establishment of a prima facie case of obviousness with respect to the solder dimensions set forth in claim 12 based on the Examiner's line of reasoning as articulated at page 5 of the Answer. We also agree with the Examiner that Appellants made no separate argument, to which the Examiner could respond, with respect to claim 12 in the principal Brief, instead relying on arguments made with regard to claim 7. Although Appellants in the Reply Brief have made an argument denigrating the Examiner's reliance on the size of the slider pad in Albrecht as a basis for the rejection, we find no evidence forthcoming from Appellants which would convince us of any error in the Examiner's position.

In summary, we have sustained all of the Examiner's rejections of the claims on appeal. Therefore, the decision of the Examiner rejecting claims 7-12 is affirmed.

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No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a)(1)(iv) (effective September 13, 2004).

AFFIRMED

*Terry J. Owens*  
TERRY J. OWENS )  
Administrative Patent Judge )  
 )  
*Joseph Ruggiero*  
JOSEPH F. RUGGIERO ) BOARD OF PATENT  
Administrative Patent Judge ) APPEALS  
 ) AND INTERFERENCES  
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*Anita Pelman Gross*  
ANITA PELLMAN GROSS )  
Administrative Patent Judge )

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